

MERCER

Investment Consulting

May 21, 2004

Total Fund Review – First Quarter Board Meeting

Arizona State Retirement System

Terry A. Dennison

Los Angeles



Marsh & McLennan Companies



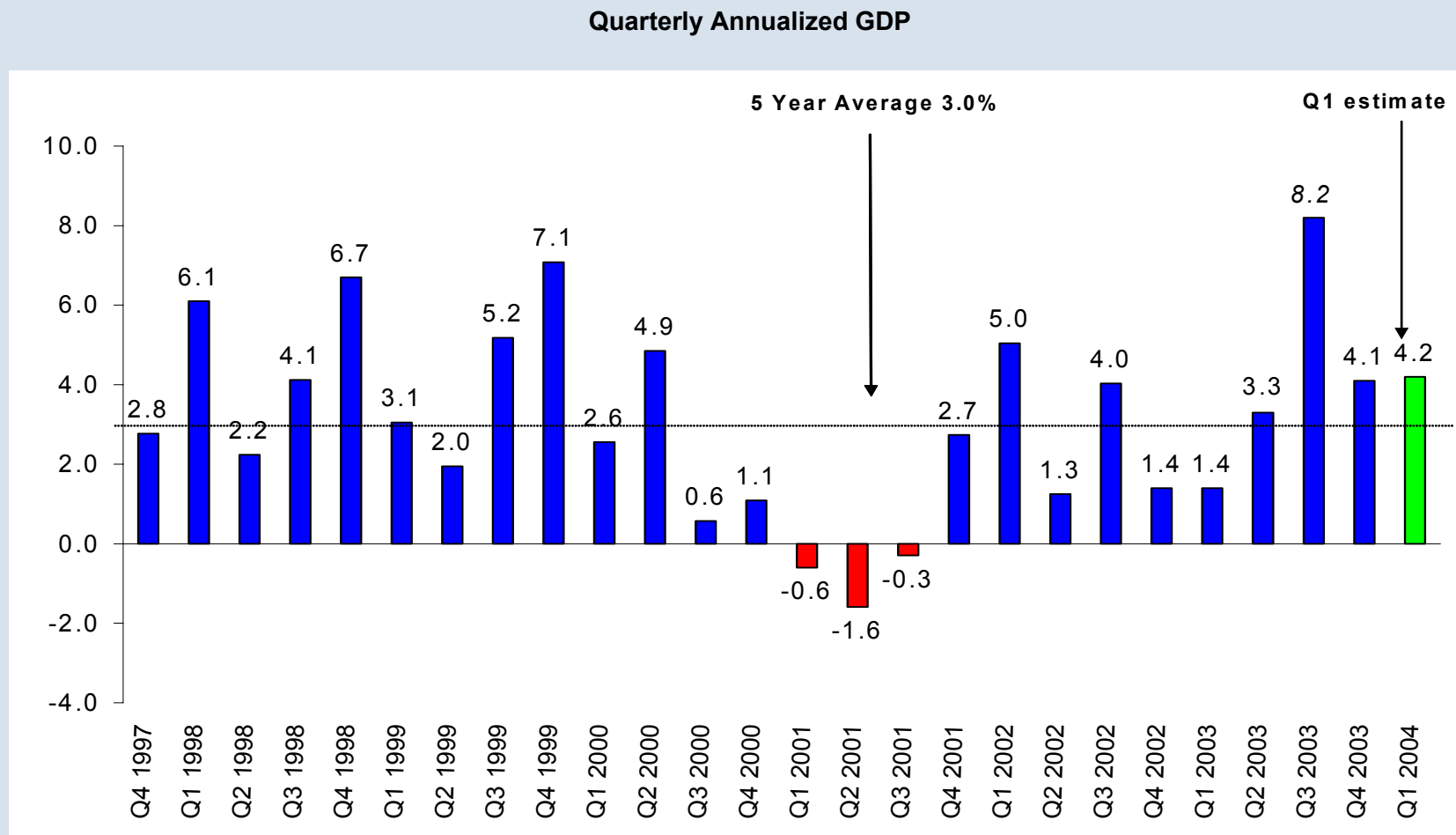
Economic Environment



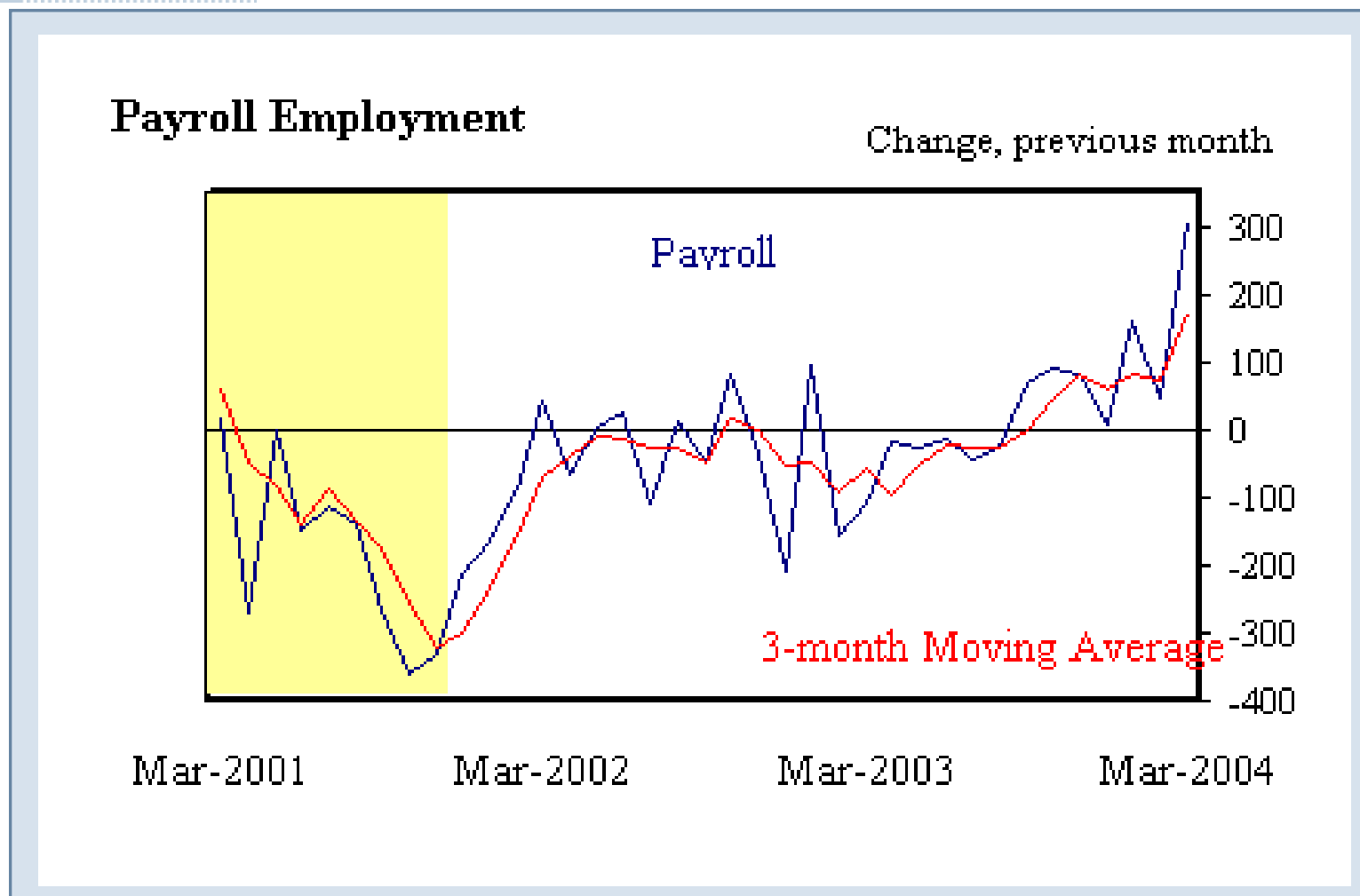
Payroll And Jobs Data Show Improvement While Signs Of Inflation Suggest Caution

- GDP estimated at 4.2% for the first quarter, boosted by military spending
- Personal consumption also increased over the prior quarter
- Payroll employment showed marked improvement, with over 500,000 jobs created during the first quarter
- Initial jobless claims continued to show improvement with approximately 340,000–350,000 per month during the quarter
- CPI rose at a 6% annualized rate during the first two months of 2004
- Some analysts fear gas prices could go to \$3 per gallon

Gross Domestic Product Shows Four Consecutive Quarters Above 5-Year Average

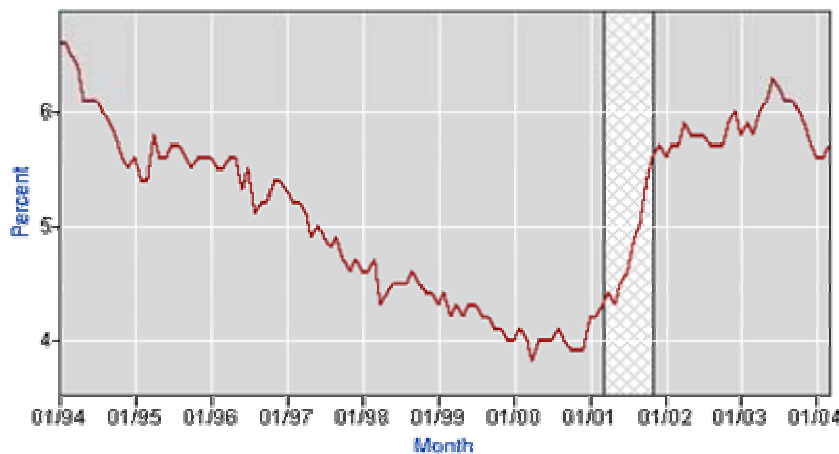


"Jobs Recovery" Is Believed To Be Beginning



Unemployment Rate Backs Up Slightly, But Job Creation Seems To Be Accelerating

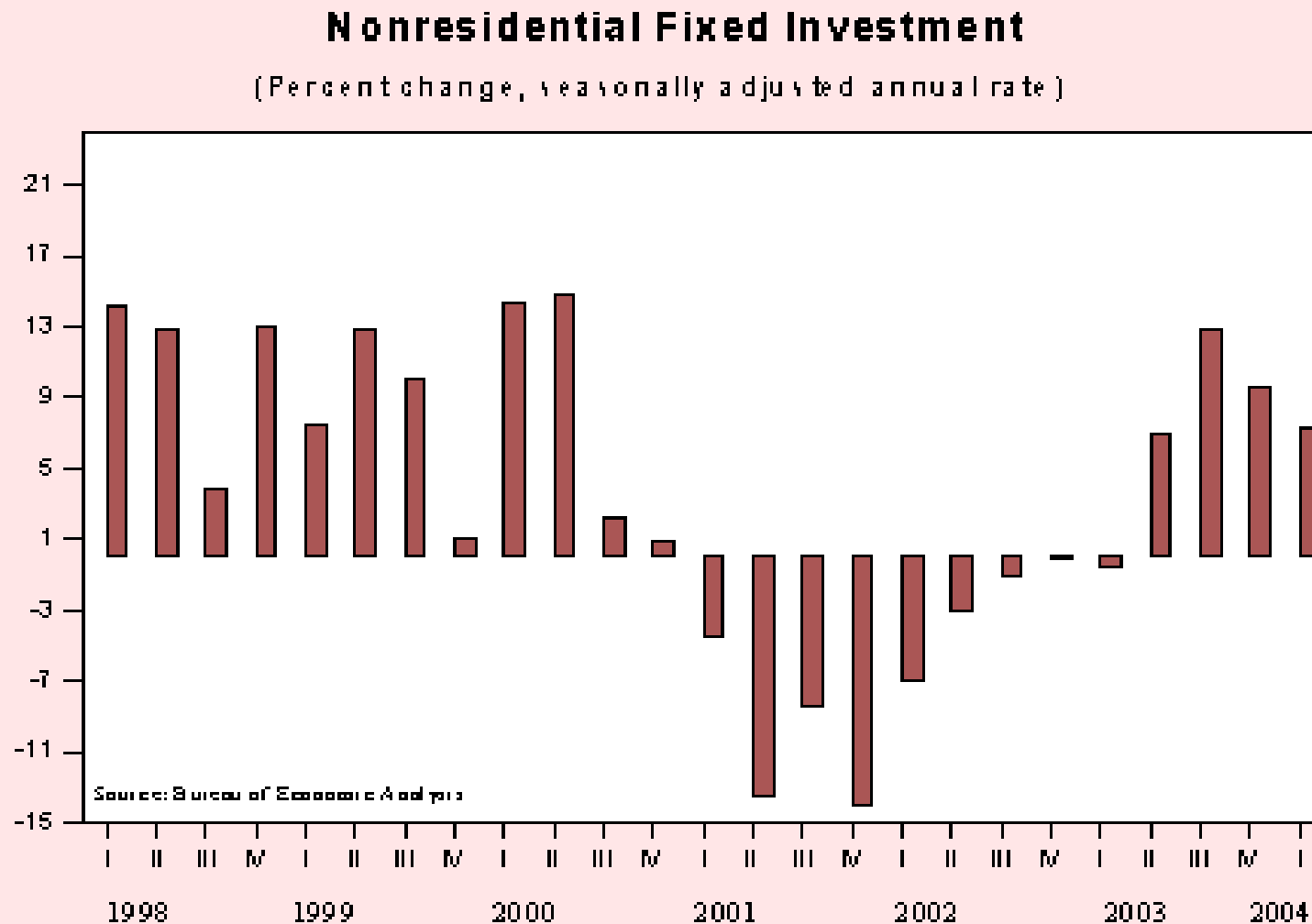
Unemployment rate (seasonally adjusted)



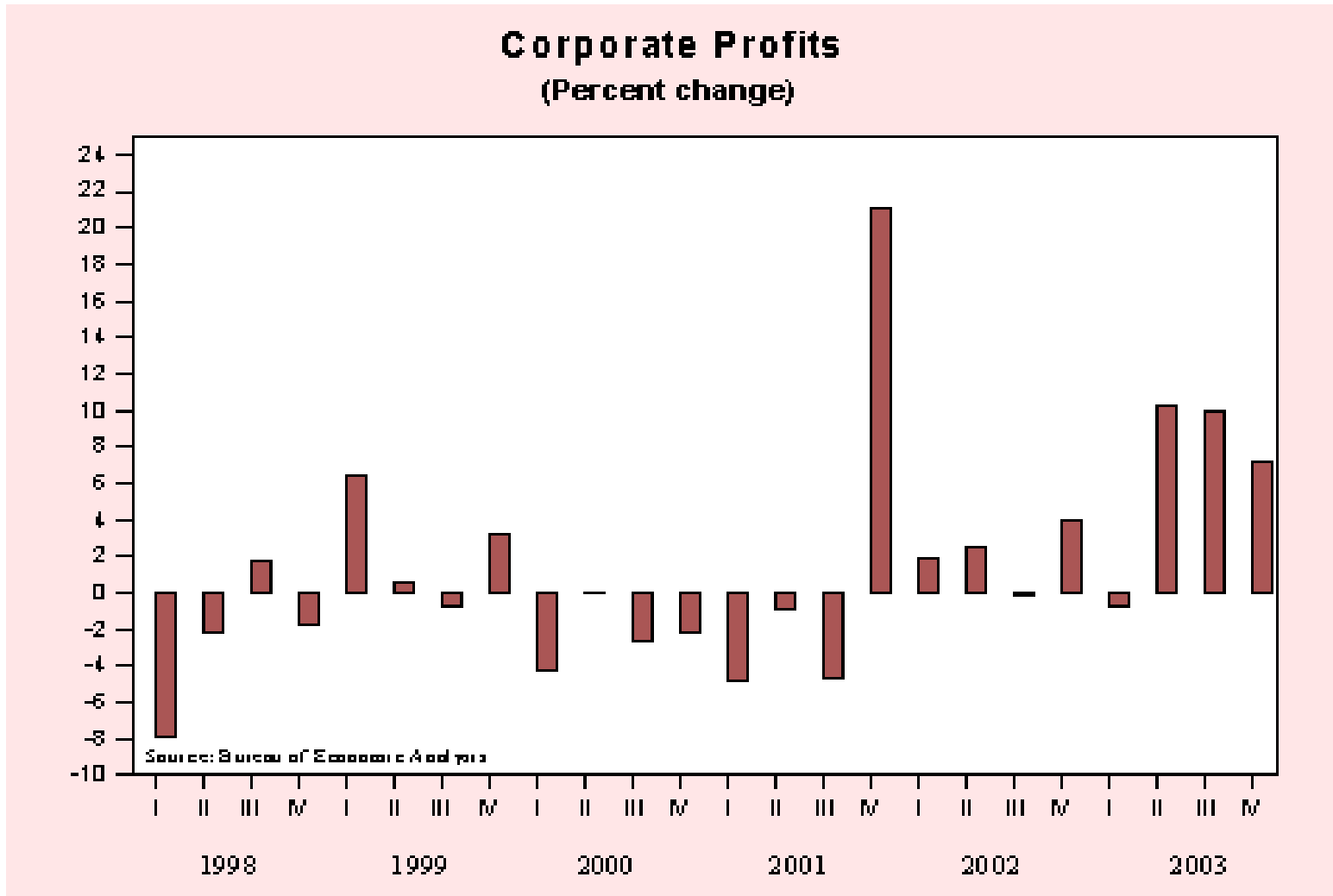
Note: Cross-hatched area represents recession. Vertical line indicates a break in series in January 1994 due to redesign of the survey.

- Household survey has shown 1.5 million new jobs over the last year
- Jobless claims dropped to levels consistent with reasonable job growth last fall. An early indication that this jobs report was going to be a blowout report when the jobless claims dropped to yet another recent low and stayed there during March
- Temp agency and help wanted indexes have been up noticeably over the last year

Business Investment Continues to Show Improvement After Nine Down Quarters



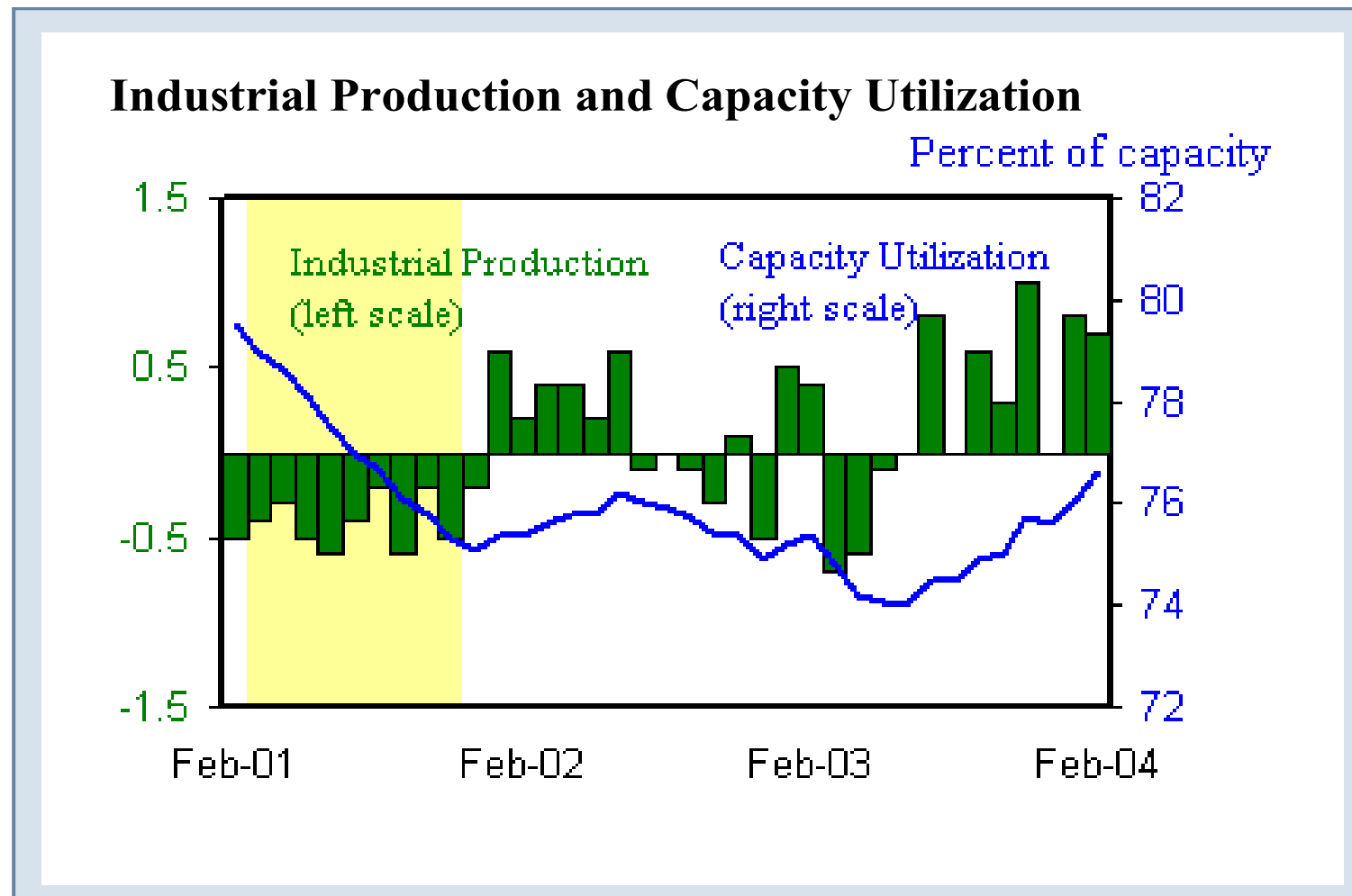
Corporate Profits Exhibiting Stable Growth



Other Positive Indicators

- Recent durable goods orders were extremely strong in March (up 3.4%). Over the past year, durable goods orders are up 13.1%
- Housing is still strong but should slow considerably. The current stats reflect the lower rates we saw in March. With rates up sharply in April, this market should cool
- According to a survey in *The Economist*, analysts peg annual GDP growth at 4.7% for 2004
- Industrial production and capacity utilization show strength
- Retail and food service sales grew 1.8% during March, with a year-over-year gain of 8.2%, the highest level since 2000

Capacity Utilization Has Begun to Rise; Industrial Production Is Also Improving



The Big Negative: INFLATION

- After bottoming out in the fourth quarter of 2003, inflation has clearly risen. The big debate is whether this is a real sustained inflation, or just a temporary up-tick due to a sudden rise in demand
- The CPI through the first three months of 2004 has been on a 6.8% pace. A lot of this is due to energy prices, which are up 8.6% YTD. The “core” inflation rate – that is, inflation with energy and food taken out – the YTD increase projects out to about 5.2%
- On a trailing-year basis, the CPI is up 1.7%. Excluding energy and food, the CPI is up 1.6%
- The top line Producer Price Index for Finished Goods is up 5.1% at an annualized rate for the first quarter. PPI numbers for intermediate and crude prices are up even more

The Big Negative: INFLATION (continued)

- Oil and gas prices dominate headlines. Pump prices are above \$2.00 in many parts of the country
 - Unleaded regular in Los Angeles is about \$2.30/gal.
- The Fed likes to look at the Personal Consumption Expenditures Price Index in the GDP report
 - This was revised upward in the latest GDP reports to 1.8%
 - Analysts are expecting a 2.0% number for 1Q04
 - 2.0% PCE is considered the unofficial objective of Fed inflation policy
- Our economist's estimate of inflation for 2004 is 2.5% to 3.0%
 - Some economists are still in the 1.7% to 2.0% range

The Federal Reserve Is About to Tighten

- Alan Greenspan has stated the obvious: that economic conditions have improved and that corporations are beginning to have some pricing power. In reaction, the equity and bond market fell apart
- For months, the Federal Reserve has indicated that the economic conditions were not right to end its stimulative monetary policy. Generally, it has been believed that the Fed is looking for two sets of conditions before tightening:
 - Evidence of sustained job growth
 - A discernable rise in inflation above 2.5% for the CPI and 2.0% for the PCE.
- Both of these conditions appear close to being met

The Federal Reserve Is About to Tighten (continued)

- Fed Funds futures have exploded
 - They indicate a 50% chance of tightening in June and a 100% chance by August
 - By year-end, the market is pricing in a 75- or 100-basis-point increase by the Fed
- One reason the Fed is not in panic mode is the low growth of the monetary base
 - Over the past year, the various measures of the money supply are up around 7.5%
 - Considering that growth is close to 5.5% since last June, this means that inflation should be around 2.0%
- We expect long rates to rise another 25 or 50 basis points over the next year. Short rates should rise even more: likely 100 basis points or more



Securities Markets

U. S. Equity Markets

Small cap stocks continued to march higher while large cap gained only modestly during the quarter

- The S&P 500 advanced a modest 1.7% for the quarter due to a weak March
- Small cap stocks advanced 6.3% during the quarter, with value stocks outpacing growth stocks
- Higher energy prices boosted gains for oil stocks
- Defensive holdings such as consumer staples, energy, financials, and utilities posted some of the best gains while more cyclical companies such as industrials, technology, and materials posted weak or negative returns

U. S. Equity Markets

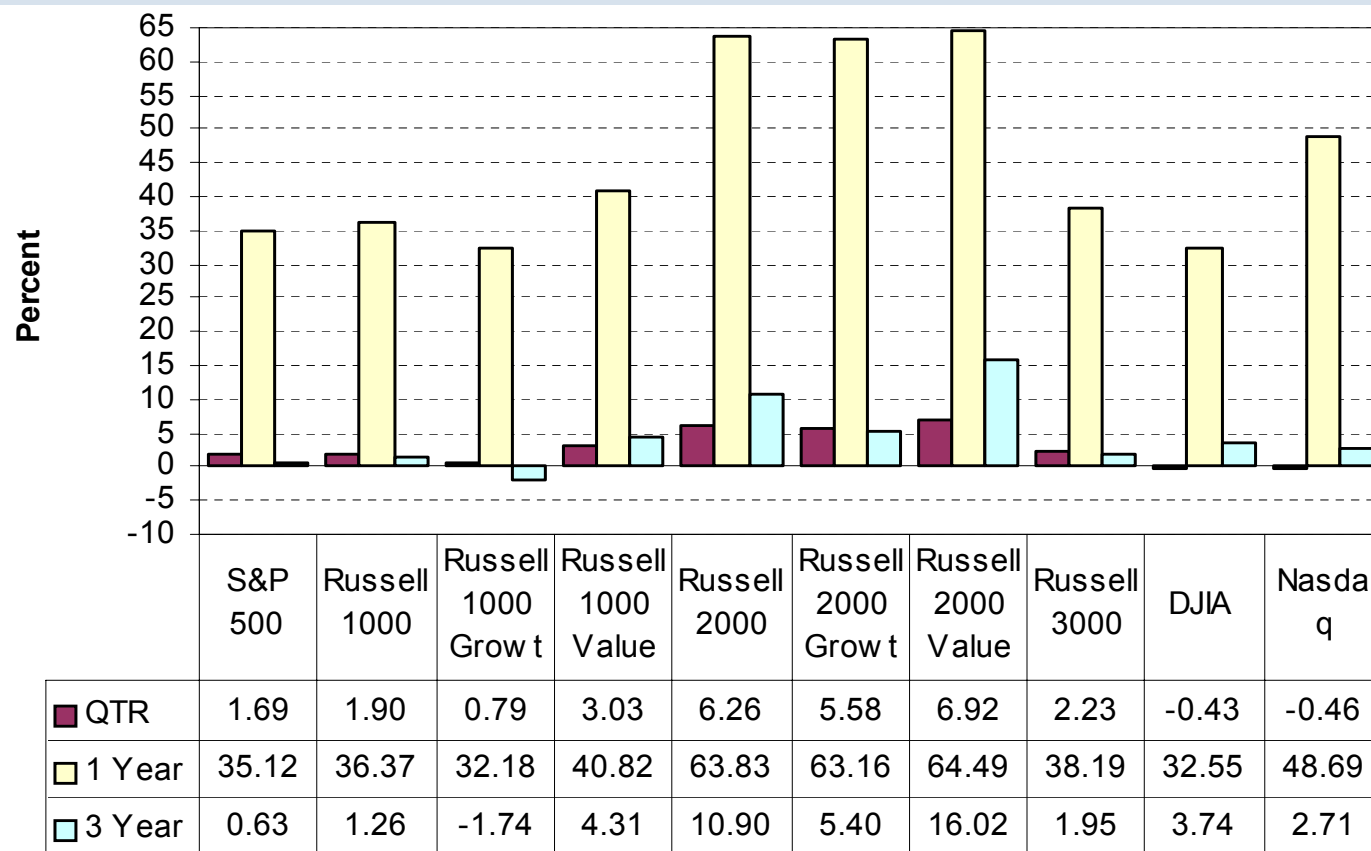
Small cap stocks continued to march higher while large cap gained only modestly during the quarter (continued)

- Quality issuers tended to fare a bit better this quarter than in the previous two quarters
- The markets may have priced in an economic recovery that could create headwinds during the coming months
- On the plus side, however, corporate earnings season has been favorable, with many companies showing positive changes to earnings: Proctor & Gamble profits up 20% in the first quarter
- Inflation and rising interest rates is clearly negative for the market

U. S. Equity Markets

Index Performance

Domestic Equity Returns



Source: Datastream

Positive Returns for Every Segment of the Market

- Value outperformed core and growth for all cap ranges
- Small value continued to provide superior returns

1Q04 Returns	Value	Core	Growth
Large	3.02	1.90	0.78
Mid	5.34	5.14	4.84
Small	6.92	6.26	5.59
Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Total, Growth			

One-Year Returns Are Excellent

- All segments generated returns in the range of +30% to +65%
- Small caps did extraordinarily well, with growth up more than 60%!

1 Year Returns	Value	Core	Growth
Large	40.81	36.36	32.19
Mid	51.60	50.84	49.64
Small	64.49	63.80	63.18
Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Core, Growth			

Three-Year Results Are Showing Solid Improvement

- Returns now positive for all but large growth
- Small cap returns are impressive

3 Year Returns	Value	Core	Growth
Large	4.30	1.26	-1.74
Mid	11.70	9.18	5.00
Small	16.02	10.89	5.39
Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Total, Growth			

Cumulative Three-Year Returns Continued to Improve

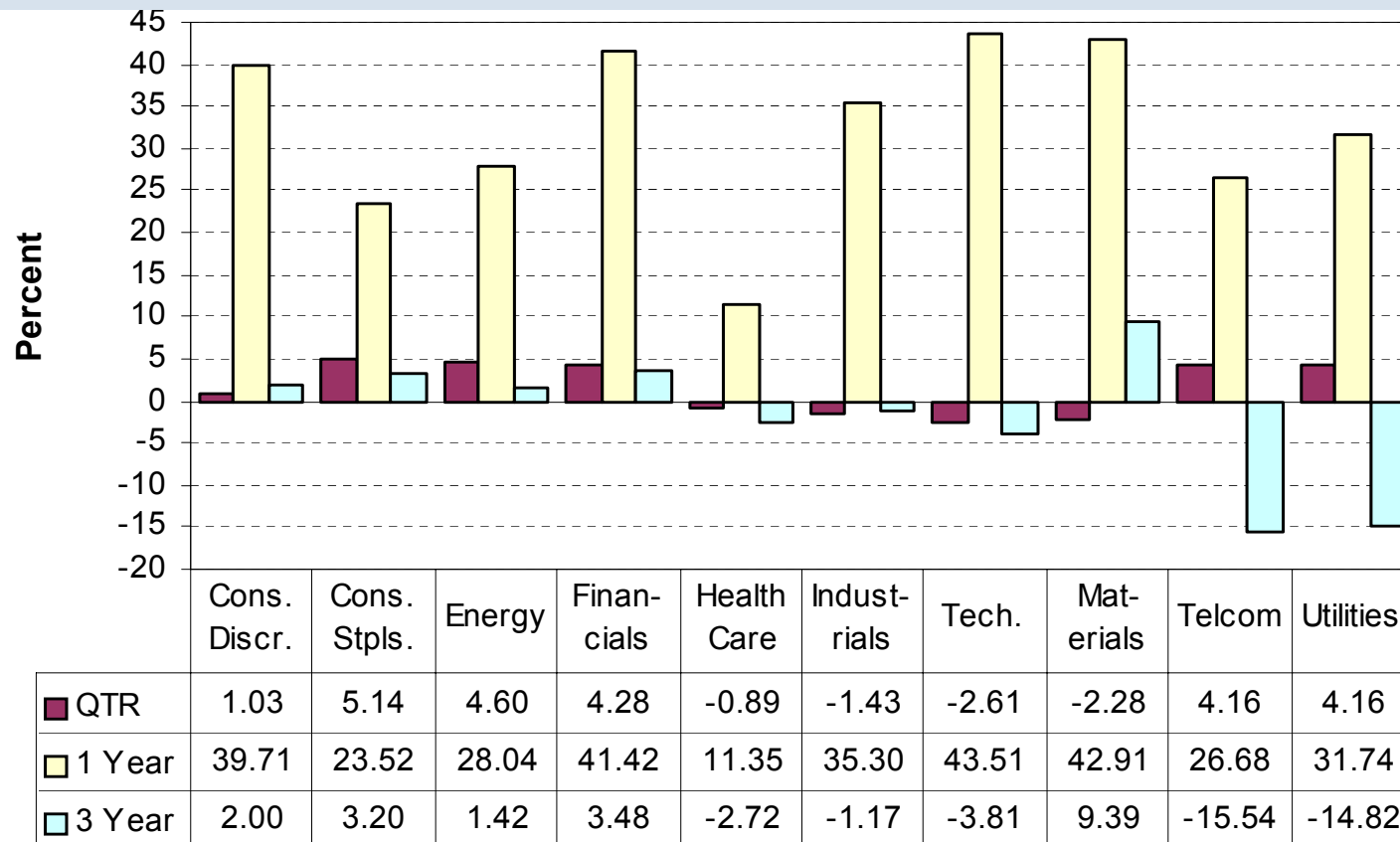
- Despite recovery, large growth fell more than 5%
- Small value stocks increased by more than 56%

Cumulative 3 Yr	Value	Core	Growth
Large	13.46	3.83	-5.13
Mid	39.37	30.15	15.76
Small	56.17	36.36	17.06
Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Total, Growth			

U. S. Equity Markets

Sector Returns

S&P 500 Returns by Sector



Source: Datastream

U. S. Equity Markets

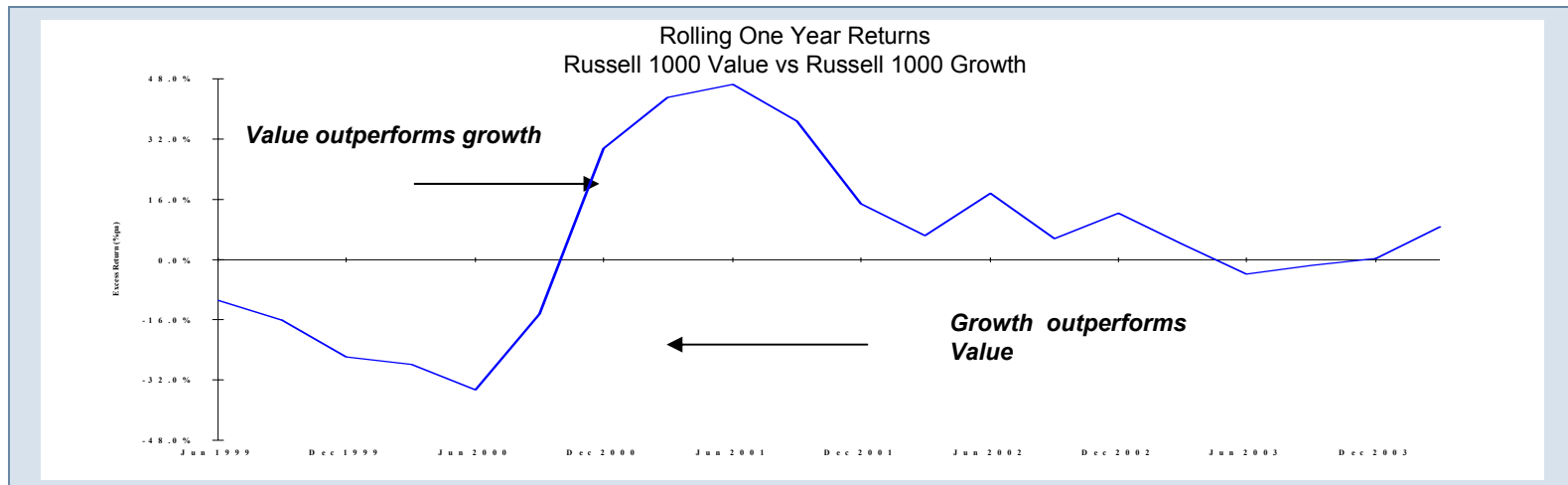
Top Positive and Negative Contributors

S&P 500 First Quarter Return: 1.69%							
25 Largest Positive Contributors to the S&P 500				25 Largest Negative Contributors to the S&P			
Stock	Return (%)	End of Quarter Weight	Rank	Stock	Return (%)	End of Quarter Weight	Rank
WAL MART STORES INC	12.76%	2.48%	6	INTEL CORP	-15.01%	1.69%	8
CITIGROUP INC	7.33%	2.56%	5	MICROSOFT CORP	-8.91%	2.58%	3
AMERICAN INTL GROUP INC	7.75%	1.79%	7	COMCAST CORP NEW	-12.29%	0.62%	33
AT&T WIRELESS SVCS INC	70.34%	0.30%	76	VIACOM INC	-11.51%	0.65%	31
PEPSICO INC	15.85%	0.88%	20	ABBOTT LABS	-11.28%	0.62%	34
J P MORGAN CHASE & CO	15.14%	0.82%	22	BRISTOL MYERS SQUIBB CO	-14.30%	0.45%	52
BANK ONE CORP	20.57%	0.59%	39	ORACLE CORP	-9.30%	0.60%	37
QUALCOMM INC	23.05%	0.51%	43	WYETH	-11.00%	0.48%	48
MOTOROLA INC	26.00%	0.40%	58	TIME WARNER INC	-6.28%	0.73%	26
PROCTER & GAMBLE CO	5.46%	1.30%	12	UNITED PARCEL SERVICE INC	-5.94%	0.76%	25
BOGEN IDEC INC	51.50%	0.18%	121	AMGEN INC	-5.89%	0.72%	28
TARGET CORP	17.47%	0.39%	59	CISCO SYS INC	-2.72%	1.56%	9
EXXON MOBIL CORP	2.05%	2.62%	2	VERITAS SOFTWARE CO	-27.31%	0.11%	209
SCHLUMBERGER LTD	16.68%	0.36%	64	FORD MTR CO DEL	-14.56%	0.24%	92
LUCENT TECHNOLOGIES INC	44.72%	0.17%	138	UNITED TECHNOLOGIES CORP	-8.57%	0.43%	54
VERIZON COMMUNICATIONS	5.26%	0.97%	16	SBC COMMUNICATIONS INC	-4.67%	0.78%	24
AMERICAN EXPRESS CO	7.71%	0.64%	32	NEXTEL COMMUNICATIONS INC	-12.12%	0.26%	84
MCDONALDS CORP	15.06%	0.35%	66	MERCK & CO INC	-3.55%	0.94%	17
BOSTON SCIENTIFIC CORP	15.29%	0.34%	70	US BANCORP DEL	-6.35%	0.51%	44
HOME DEPOT INC	5.47%	0.82%	23	WALGREEN CO	-9.31%	0.32%	71
TYCO INTL LTD NEW	8.16%	0.55%	41	LILLY ELI & CO	-4.37%	0.72%	27
CARNIVAL CORP	13.35%	0.34%	68	DU PONT E I DE NEMOURS & CO	-7.23%	0.40%	56
COUNTRYWIDE FINANCIAL CORP	26.72%	0.17%	129	GENERAL MTRS CORP	-10.86%	0.25%	87
SPRINT CORP	63.70%	0.09%	249	WELLS FARGO & CO NEW	-3.01%	0.92%	18
MBNA CORP	11.67%	0.34%	69	ALCOA INC	-8.32%	0.29%	79

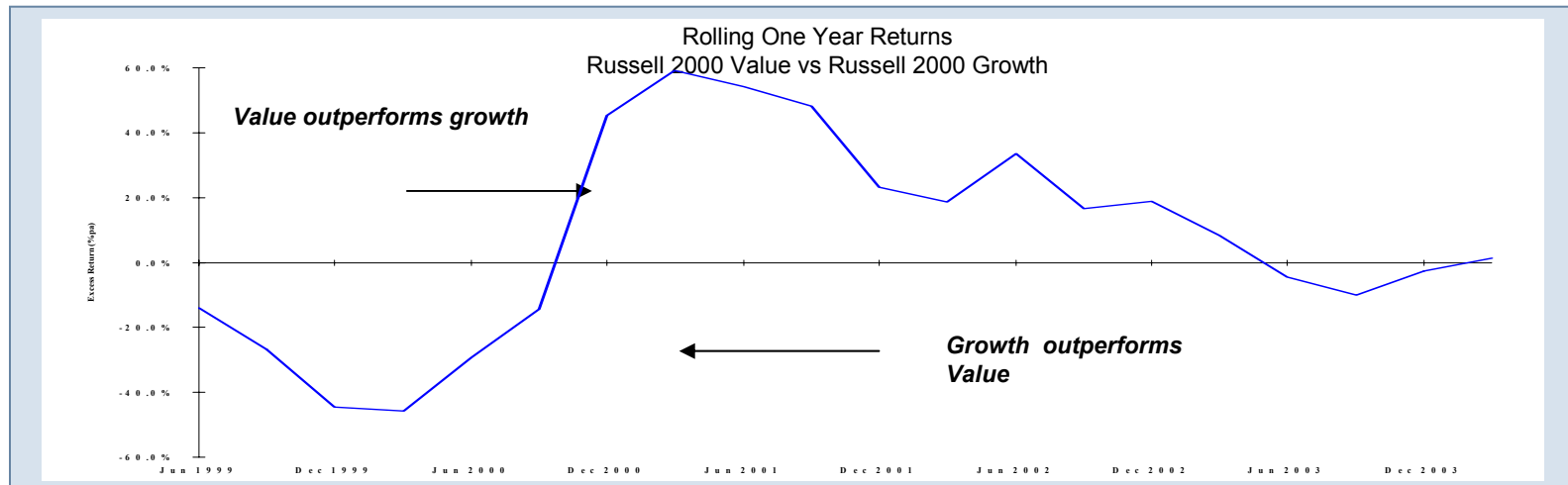
Utilities	Cons. Non Durables/Services	Cap Goods	Financials	Health Care	Basic Inds	Info. Tech	Energy	Cons Durables	Transportation
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Value Is Beginning to Have an Advantage Over Growth

Returns



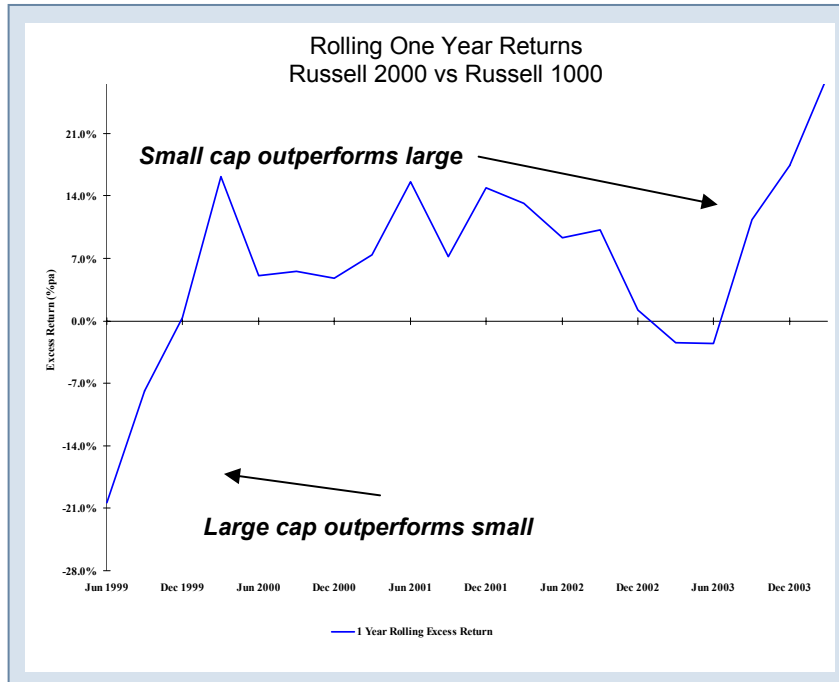
Returns



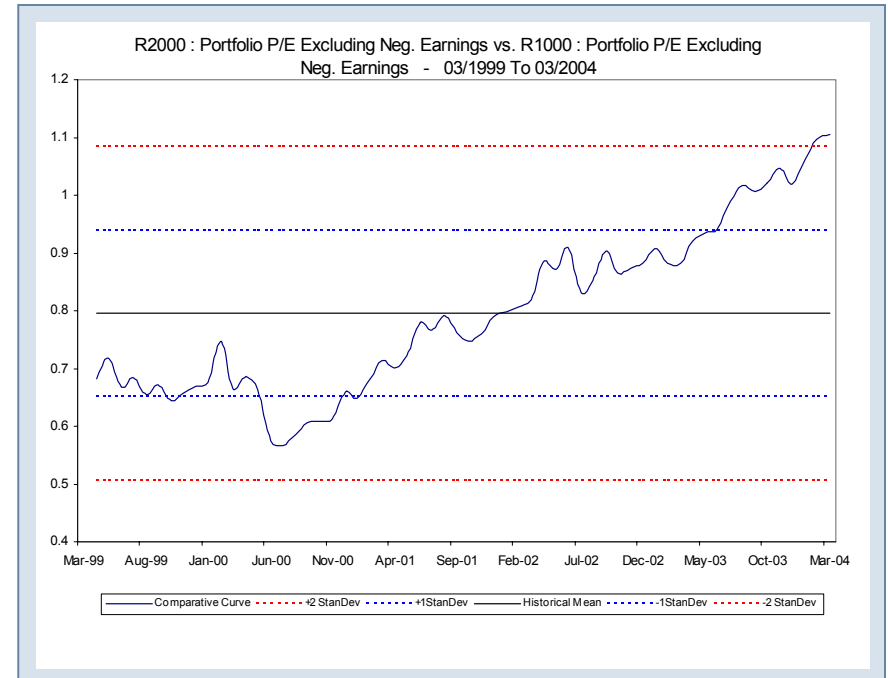
Small Cap Performance Strongly Above Large Cap

Valuations Are Much Higher Also

Returns



Valuation



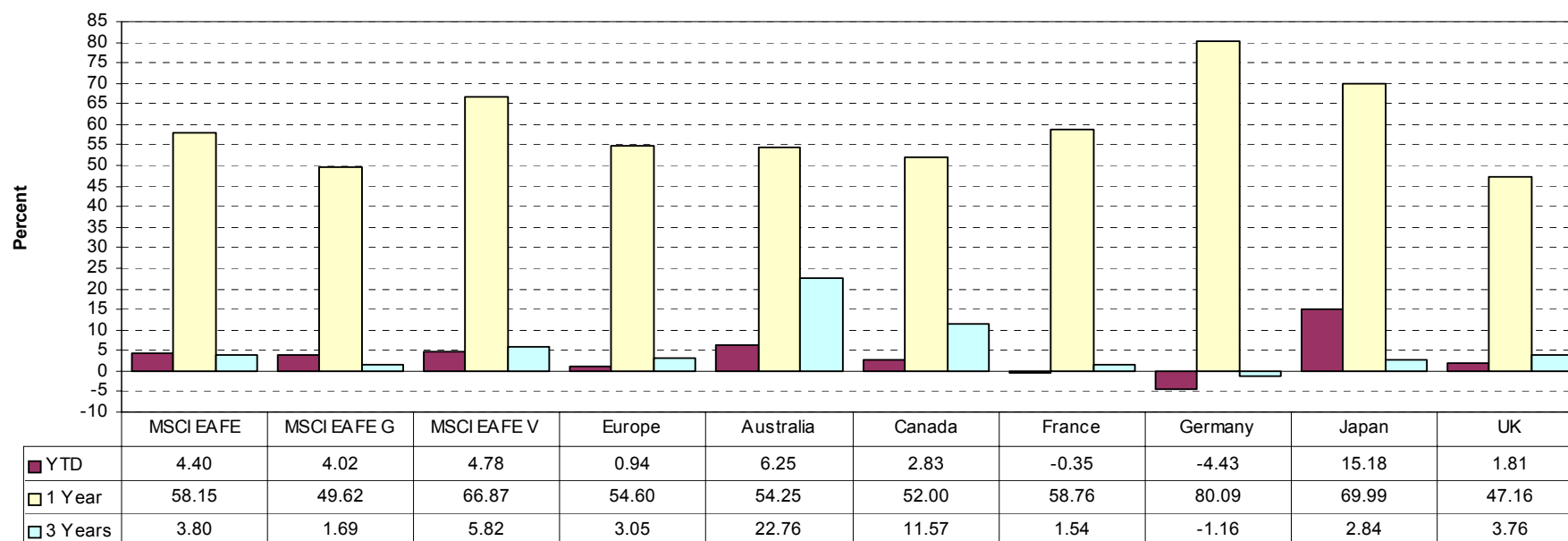
Non-U. S. Equity Markets

International Equities Continue To Outperform The US

- The MSCI EAFE gained 4.4% during the quarter, outpacing the large cap US equity markets
- Japan's signs of positive economic news resulted in renewed vigor to the their equity markets with a 15.2% gain
- Europe experienced less stellar returns as the Madrid bombing and weak economic outlook weighed on investors
- The dollar had a modest rally against the euro while the Japanese yen strengthened against the dollar

Non-U. S. Equity Markets

EAFE Regional Performance



Fixed Income Markets

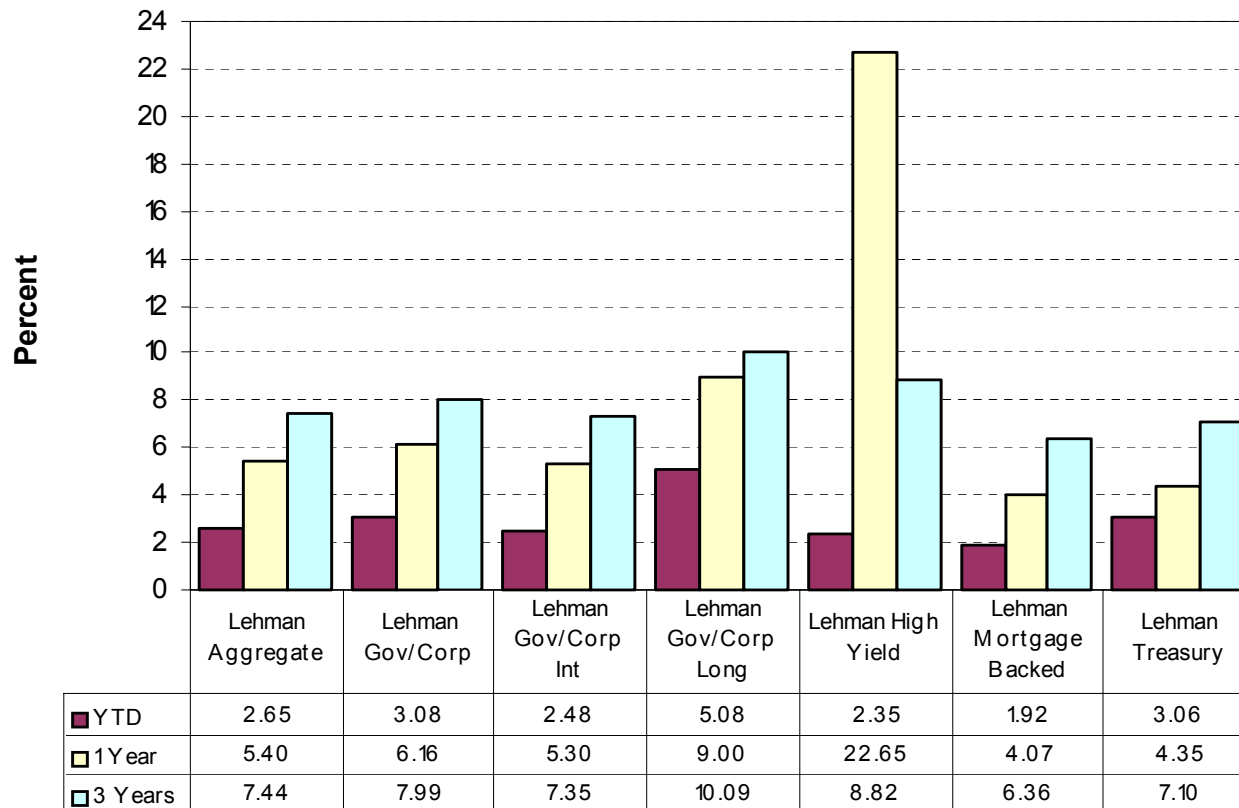
Bonds Advance With Long Bonds Gaining The Most
Corporates Outpacing Most US Treasury Issues

- The LB Aggregate Index advanced 2.7%, with corporate issuers posting the larger gains
- Short and intermediate maturities trailed longer ones
- Long US government bonds returned over 5.3%
- Industrials and financials earned over 3.2% while utilities gained 3.6%
- Mortgage-backed issues were the weakest of the sectors
- The yield curve remains very steep as rates declined across most maturities to return to March 2003 levels

Fixed Income Markets

Index Performance

Domestic Fixed Income Returns

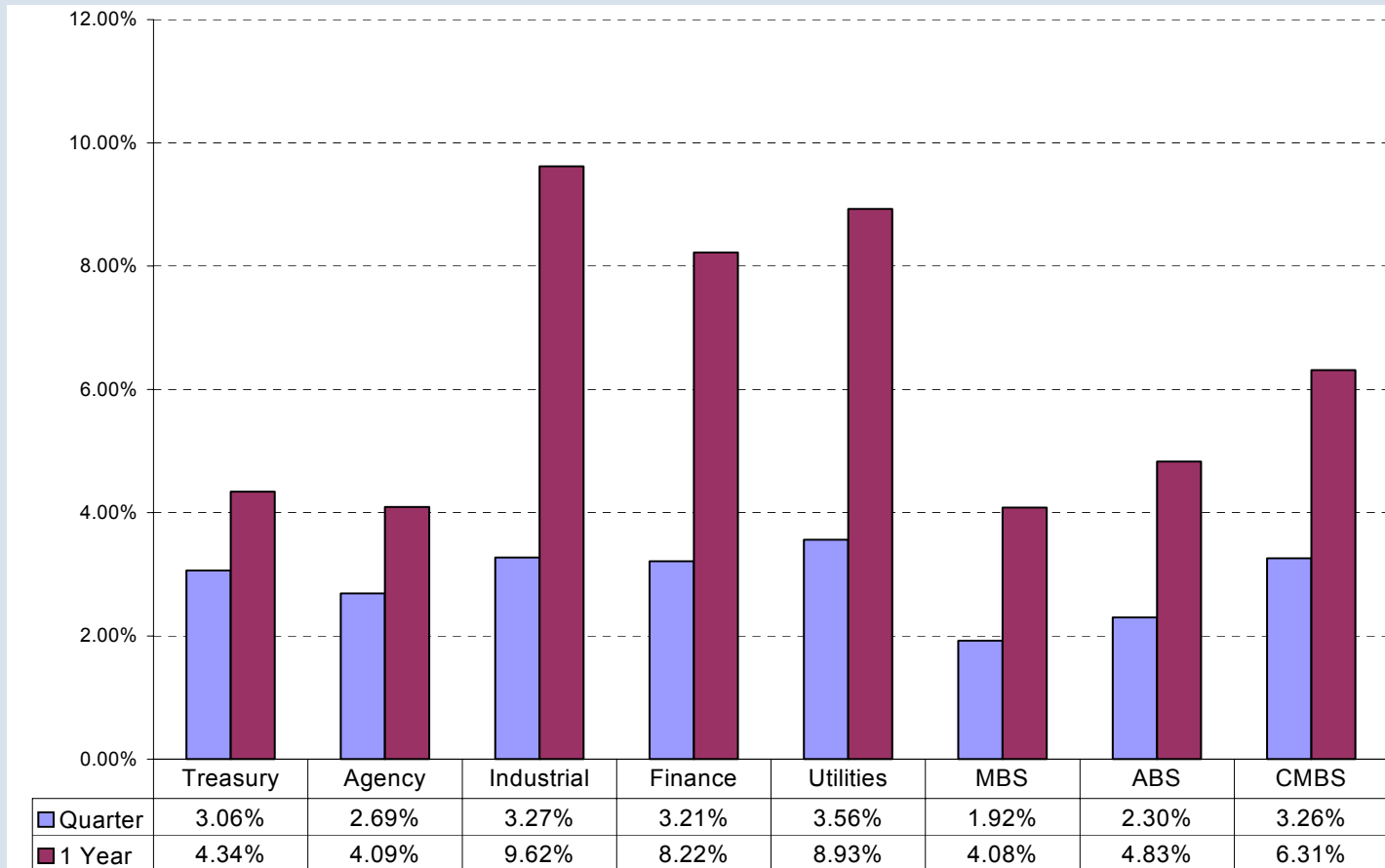


Source: Datastream

Fixed Income Markets

Sector Performance

Fixed Income Returns by Sector

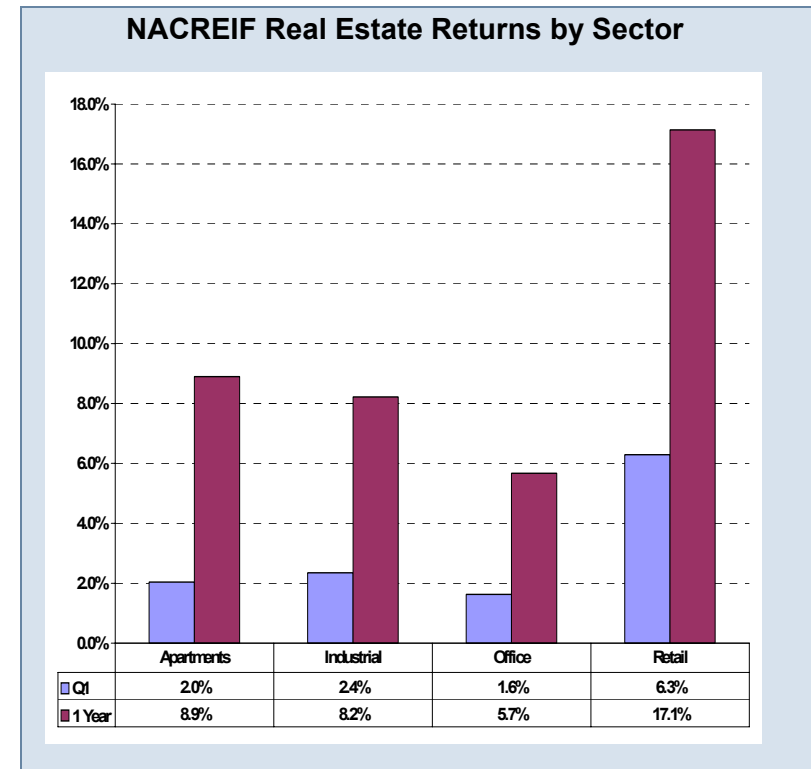


Source: Lehman Brothers

Real Estate

REITS Returned 12.6%, Direct Real Estate Earned 2.7%

- Retail properties, which compose 26% of the NAREIT Index, posted a significant 18.8% gain
- Within direct real estate investments, the last quarter's gain of 2.7% reflected continued strength within the retail market and weakness within office space
- The Eastern region of the country posted the best real estate returns, while the Midwest was significantly weaker than the rest of the country



A solid blue square is positioned on the left side of the slide, partially overlapping the text.

ASRS Total Fund Performance

Total Fund Performance

For Periods Ending March 31, 2004

	<u>Q u a r t e r</u>	<u>1 Y e a r</u>	<u>3 Y e a r s</u>	<u>5 Y e a r s</u>	<u>I n c e p t i o n</u>
T o t a l F u n d	3 . 2 %	3 2 . 6 %	4 . 7 %	3 . 5 %	1 1 . 1 %
B e n c h m a r k *	2 . 4	2 9 . 5	3 . 7	1 . 9	9 . 3
R / M P u b l i c F u n d s M e d i a n	3 . 5	3 1 . 2	5 . 7	5 . 2	—
P e r c e n t i l e R a n k i n g	7 5	3 4	9 0	9 7	

* Interim Benchmark of 56% S&P 500/28% LB Aggregate/16% EAFE, which incorporates a proration of 6% real estate.

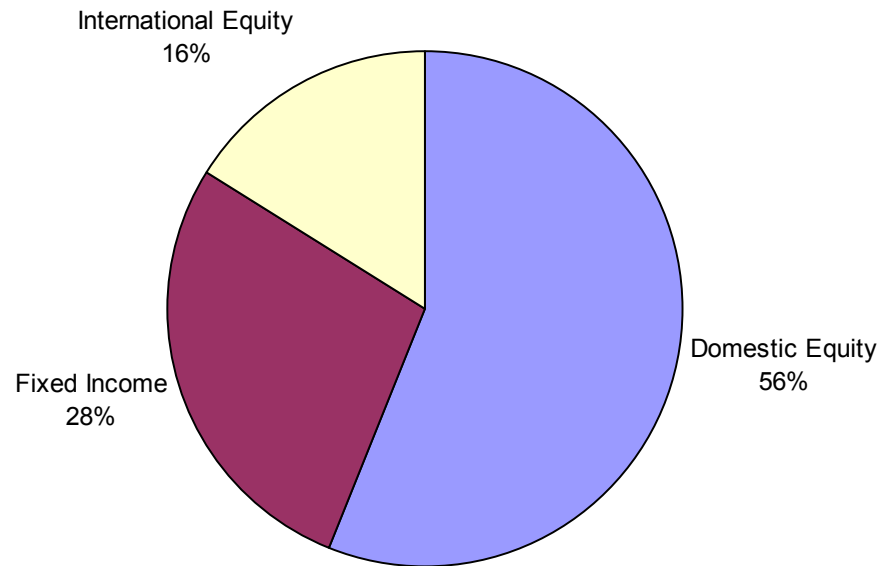
Policy History:

- 1/1/89-12/31/91 – 60% S&P 500/40% LB Aggregate
- 1/1/92-12/31/94 – 50% S&P 500/40% LB Aggregate/10% EAFE
- 1/1/95-6/30/97 – 45% S&P 500/40% LB Aggregate/15% EAFE
- 7/1/97-12/31/99 – 50% S&P 500/35% LB Aggregate/15% EAFE
- 1/1/00-9/30/03 – 53% S&P 500/30% LB Aggregate/17% EAFE
- 10/1/03-present – 53% S&P 500/26% LB Aggregate/15% EAFE/6% Custom Real Estate Benchmark.

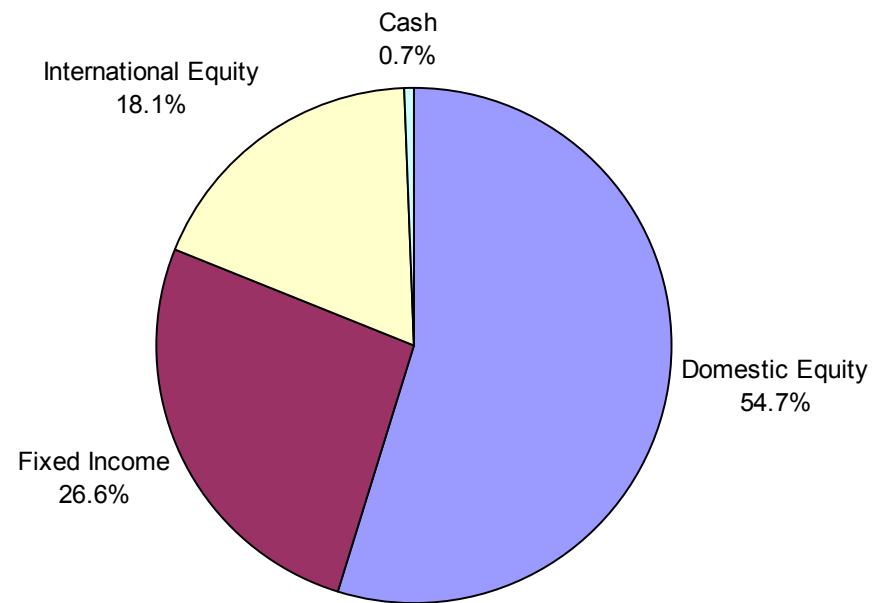
Total Fund Asset Allocation

March 31, 2004

Policy Adjusted for Transition into Real Estate



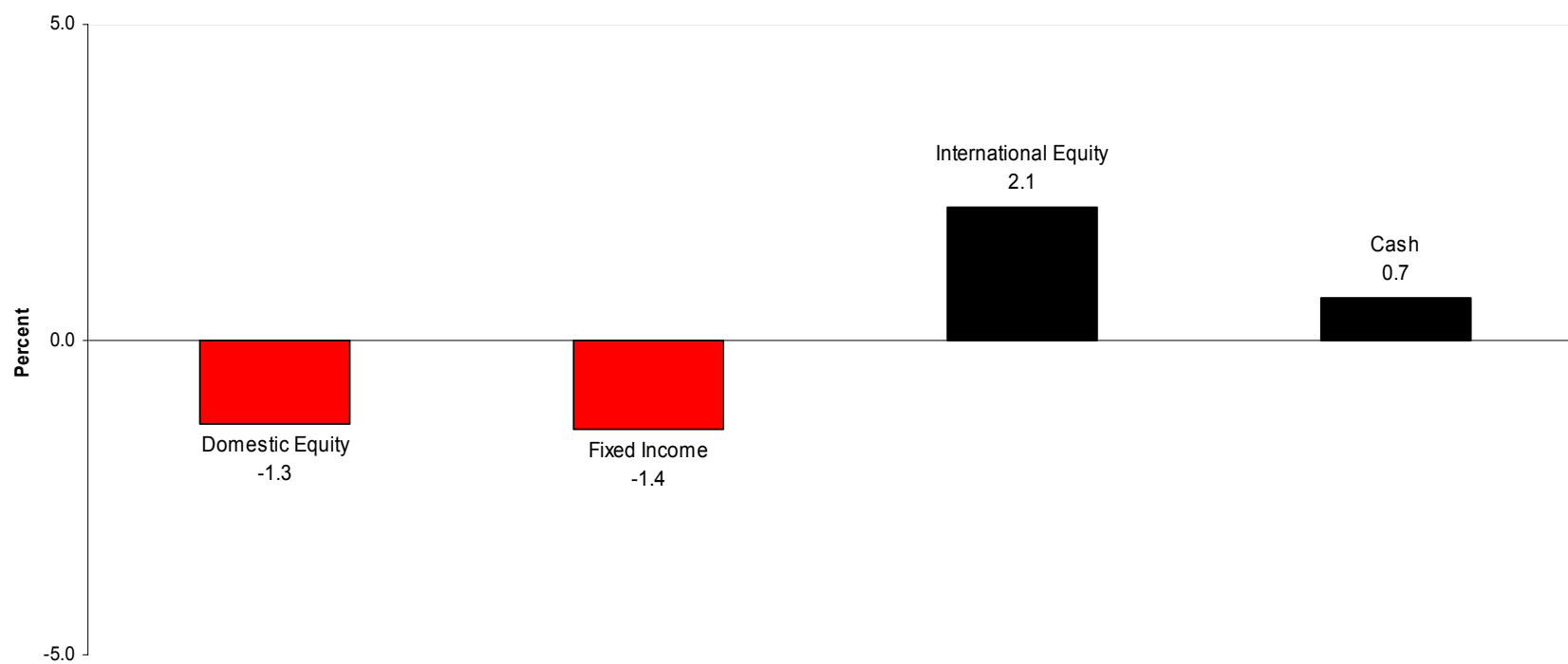
Actual Allocation



Total Fund Asset Allocation

March 31, 2004

Asset Allocation vs. Policy Adjusted for Transition into Real Estate



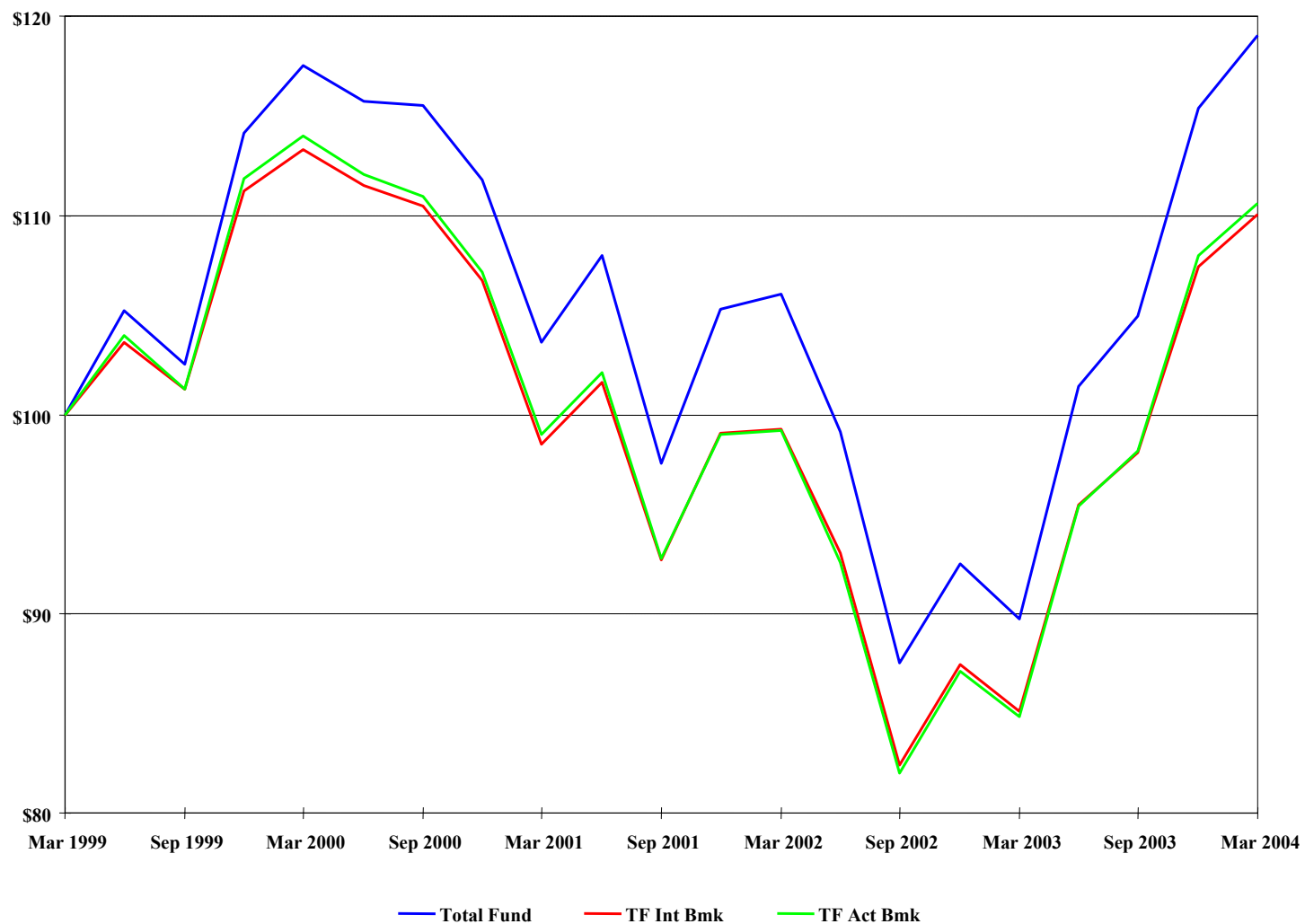
Total Fund Performance

For the Year Ending March 31, 2004

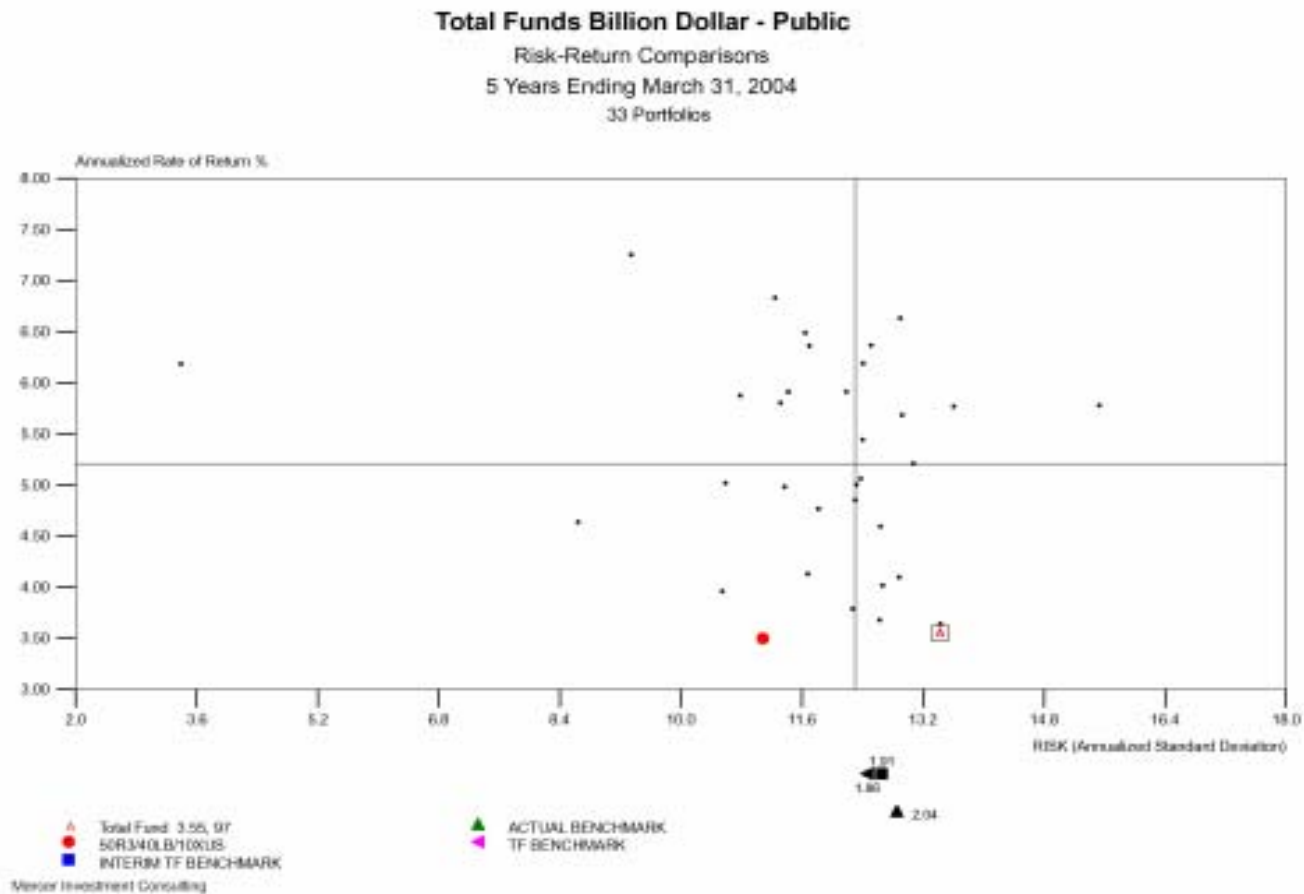
- Measured against:
 - Asset Allocation Target of 8.5% annually
 - Total Fund has outperformed by 24.1%
 - Inflation + 3.0% annually
 - Total Fund has outperformed by 27.8%
 - Actuarial assumption rate of 8.0% annually
 - Total Fund has outperformed by 24.6%

Total Fund Growth

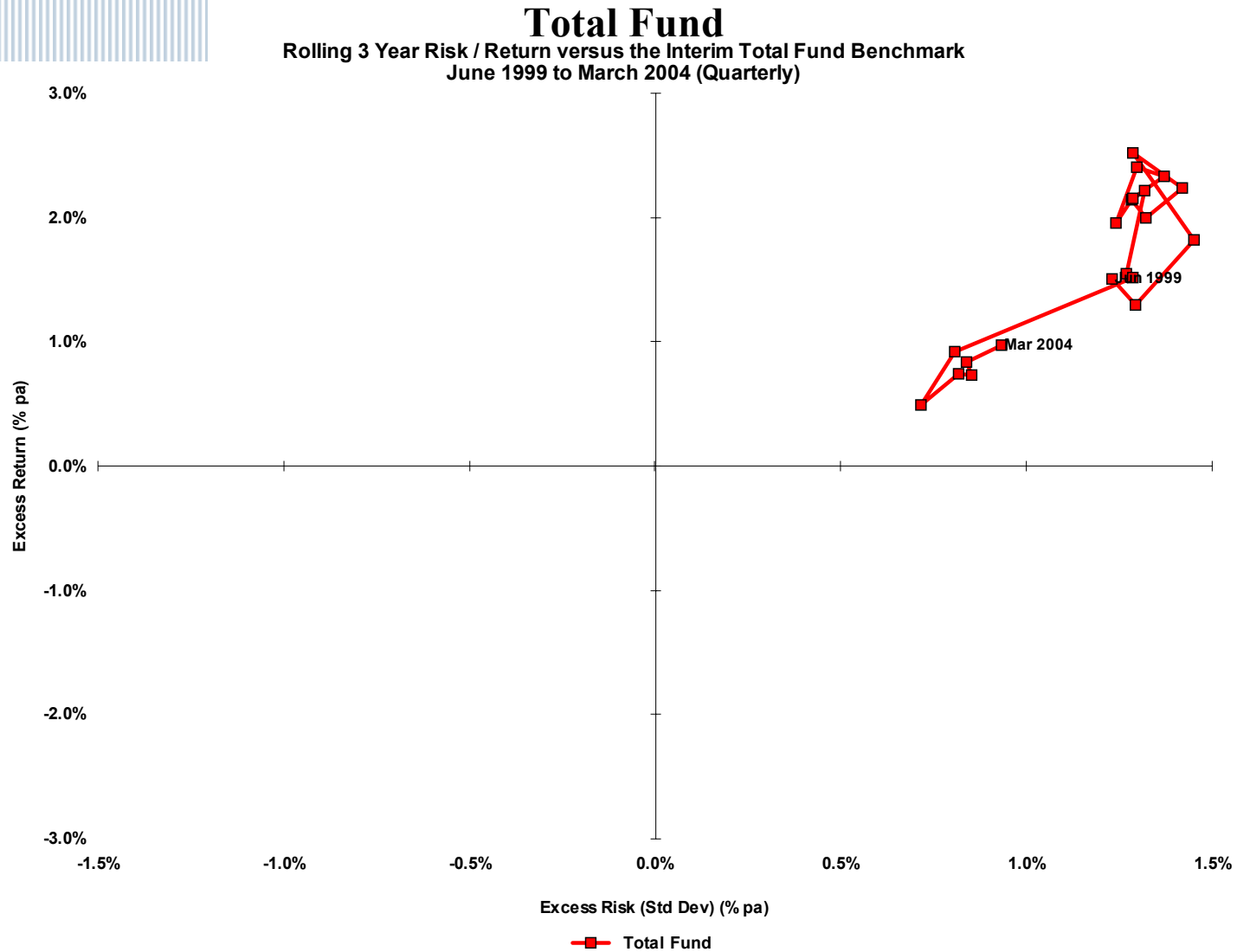
Total Fund
Value of \$100 invested in US Balanced from Apr 1999 to Mar 2004



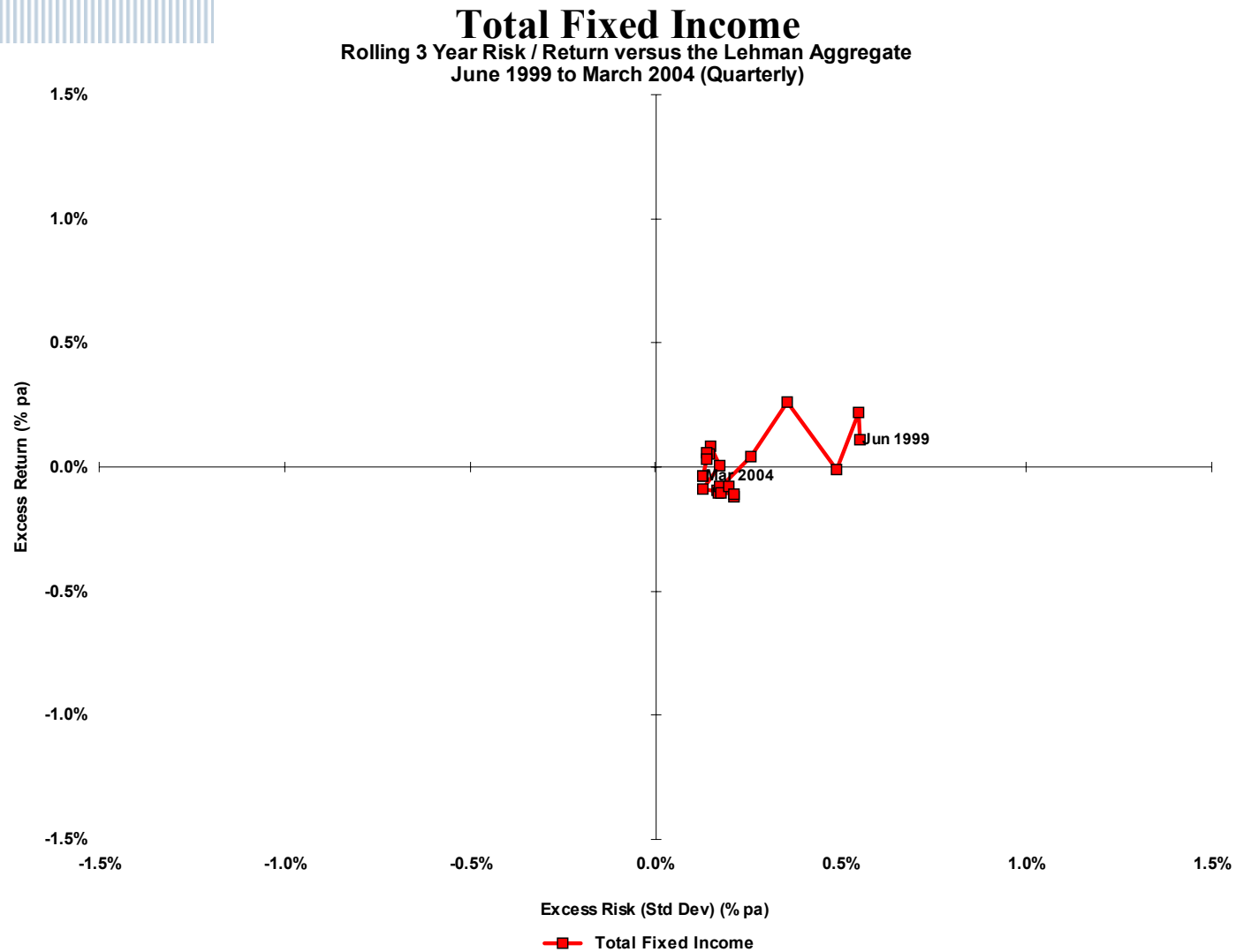
Total Fund Return/Risk Analysis



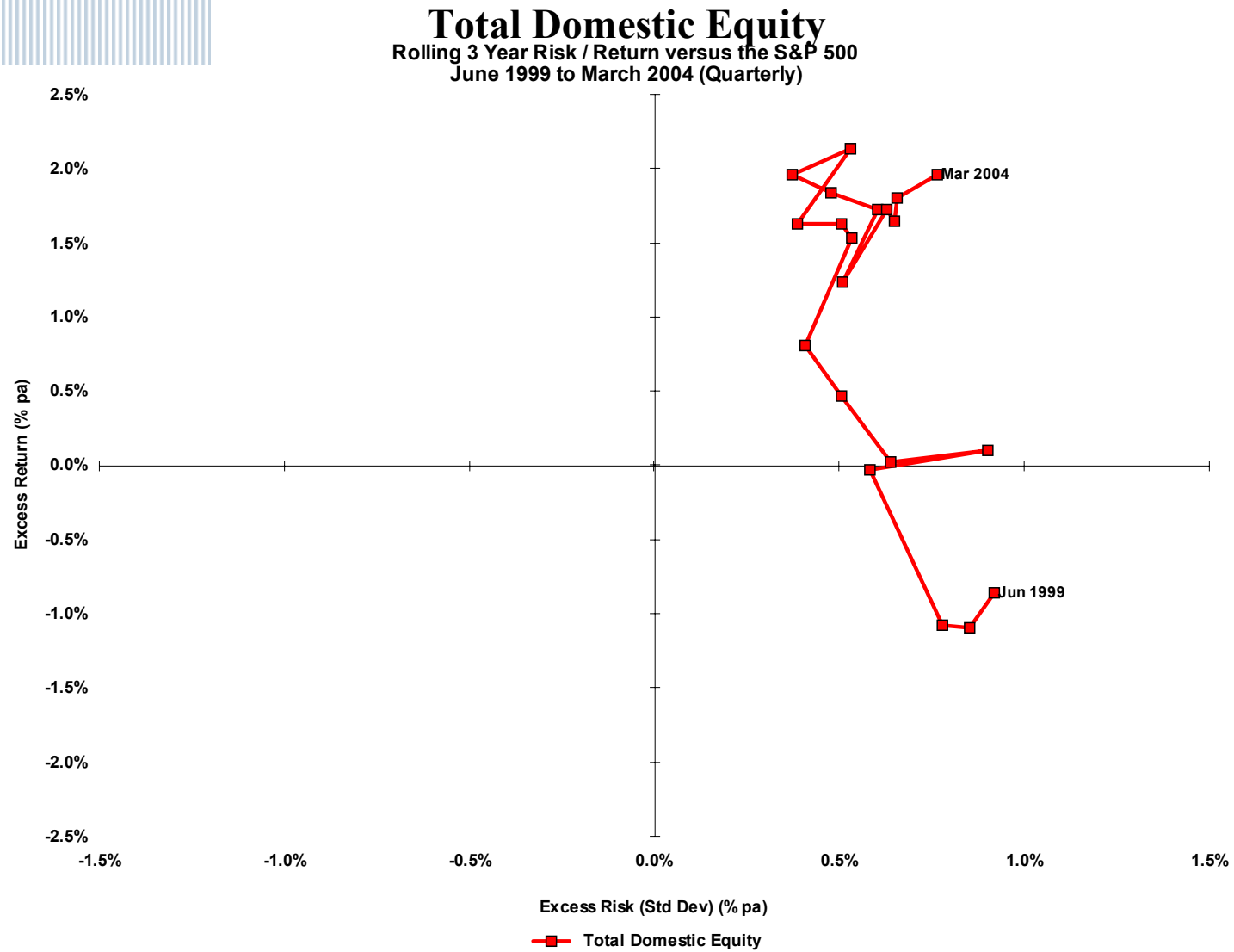
Risk/Return Analysis



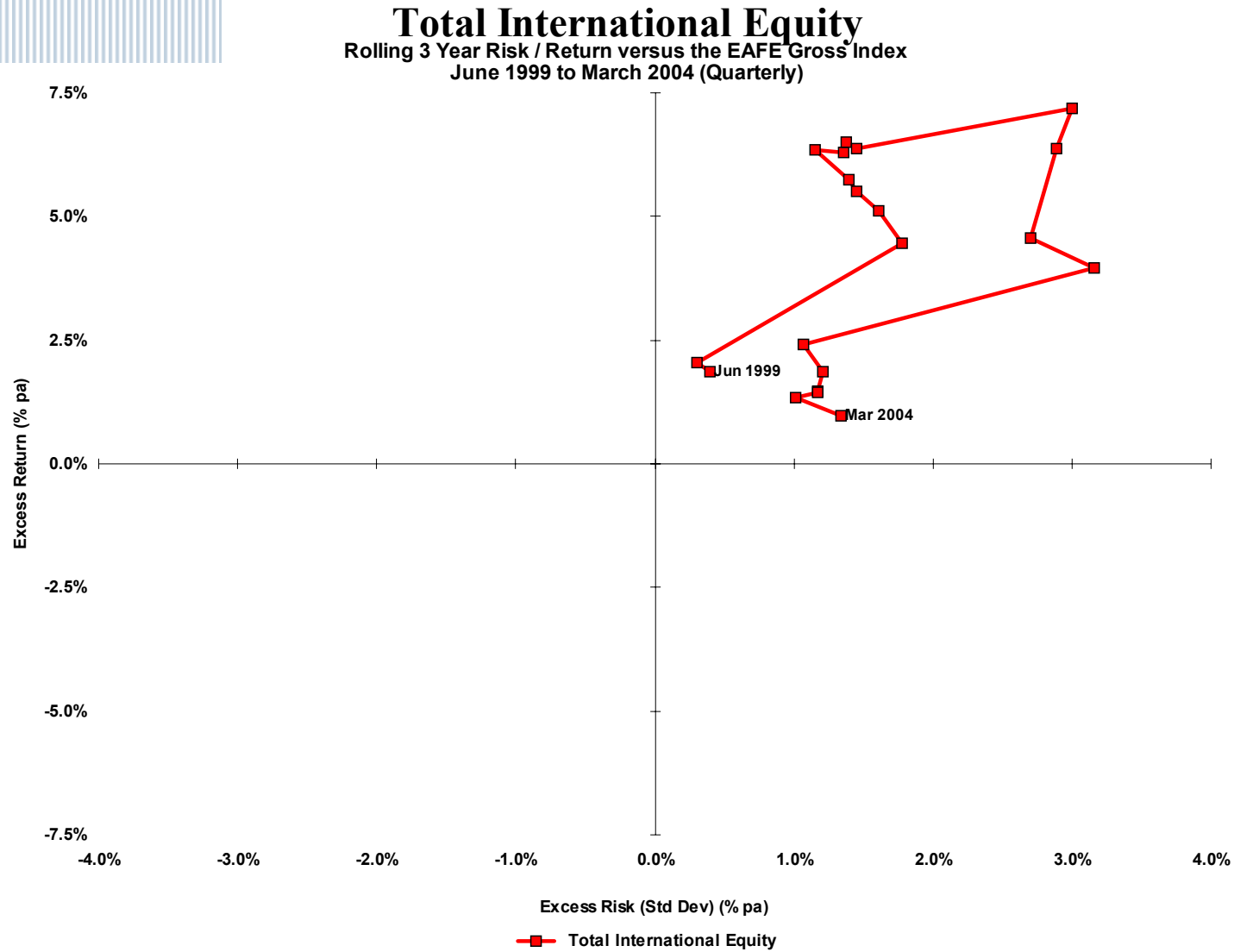
Risk/Return Analysis



Risk/Return Analysis



Risk/Return Analysis



Performance vs. Benchmarks

For the 3 Years Ending March 31, 2004

	<u>Return</u>	Assumed <u>ROR</u>	<u>Std. Dev.</u>	Assumed <u>Std. Dev.</u>
Total Fund	4.7%	7.4%	15.5%	13.4%
Benchmark	3.7		14.6	
Domestic Fixed	7.4	4.5	3.7	6.0
LB Aggregate	7.4		3.5	
Domestic Equity	2.6	8.5	22.6	18.6
S&P 500	0.6		21.8	
Intl. Equity	4.8	8.5	24.5	21.9
EAFE	3.8		23.2	

Performance vs. Benchmarks

For the 5 Years Ending March 31, 2004

	<u>Return</u>	Assumed <u>ROR</u>	<u>Std. Dev.</u>	Assumed <u>Std. Dev.</u>
Total Fund	3.5%	7.4%	13.8%	13.4%
Benchmark	1.9		12.9	
Domestic Fixed	7.2	4.5	3.6	6.0
LB Aggregate	7.3		3.4	
Domestic Equity	0.7	8.5	20.1	18.6
S&P 500	-1.2		19.7	
Intl. Equity	4.8	8.5	22.7	21.9
EAFE	0.8		21.0	